**REGULATION III - CONTROL OF AIR CONTAMINANTS**

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# MARICOPA COUNTY
# AIR POLLUTION CONTROL REGULATIONS

## REGULATION III - CONTROL OF AIR CONTAMINANTS

## RULE 334
## RUBBER SPORTS BALL MANUFACTURING

### SECTION 100 - GENERAL

**101 PURPOSE:** To limit emission of volatile organic compounds (VOCs) from natural and synthetic rubber adhesives used in the manufacture of non-inflatable rubber balls.

**102 APPLICABILITY:** This rule applies to any rubber sports-ball manufacturing facility with an aggregate emission to atmosphere after December 31, 1989, of 50.0 tons (45.35 Mg) or more of VOC in any year or 8333 pounds (3780 kg) or more of VOC in any month, emitted from handling, using and/or preparing rubber adhesives or their constituents.

### SECTION 200 - DEFINITIONS:

For the purpose of this rule, the following definitions shall apply:

**201 ADHESIVE -** An initially fluid material used to fasten or bond two surfaces together by using the intermolecular forces between adhesive and the bonded surface(s) as a principal mechanism effecting the bonding.

**202 APPROVED EMISSION CONTROL SYSTEM -** A system for reducing emissions of organic compounds, consisting of collection and control devices which are approved in writing by the Control Officer and are designed and operated in accordance with good engineering practice.

**203 DAY -** A period of 24 consecutive hours beginning at midnight.

**204 NON-PRECURSOR ORGANIC COMPOUND -** Any of the following organic compounds which have been designated by the EPA as having negligible photochemical reactivity: methane; ethane; methylene chloride (dichloromethane); 1,1,1–trichloroethane; trichlorofluoromethane (CFC–11); dichlorodifluoromethane (CFC–12); chlorodifluoromethane (CFC–22); 1,1,2–trichlorotrifluoroethane (CFC–113); 1,2–dichlorotetrafluoroethane (CFC–114); chloropentafluoroethane (CFC–115); trifluoromethane (FC–23); 2,2–dichloro-1,1,1–trifluoroethane (HCFC–123); 2–chloro-1,1,1,2–tetra-

fluoroethane (HCFC−124); 1,1−dichloro-1−fluoroethane (HCFC−141b); 1−chloro-1,1−difluoroethane (HCFC−142b); pentafluoroethane (HFC−125); 1,1,2,2−tetrafluoroethane (HFC−134); 1,1,1,2−tetrafluoroethane (HFC−134a); 1,1,1−trifluoroethane (HFC−143a); 1,1−difluoroethane (HFC−152a); all completely fluorinated, completely saturated: alkanes, ethers and tertiary amines; sulfur-containing perfluorocarbons with no unsaturations, no hydrogen, and with sulfur bonds only to carbon and fluorine.

**205 PRODUCTION DAY -** Any day in which the total adhesive pumped into any and all adhesive application machines exceeds 100 gallons (379 liters).

**206 RUBBER SPORTS BALL -** A hollow ball having natural and/or synthetic rubber as a principal ingredient, having no pressure adjustment valve, and intended for sports in which it is hit.

**207 VAPOR PROCESSING DEVICE -** The portion of a VOC emission control system that recovers, destroys, or otherwise physically or chemically handles VOC vapor, delivered to it by a capture system, so that most or all of that VOC cannot be emitted to the atmosphere.

**208 VOLATILE ORGANIC COMPOUND (VOC) -** Any organic compound except non-precursor organic compounds.

## SECTION 300 - STANDARDS

**301 LIMITATION - ADHESIVES:** By May 31, 1995, no person shall use adhesives in the manufacture of rubber sports balls, including but not limited to tennis and racquet balls, except by:

**301.1** Using adhesive with a VOC content that does not exceed 2.4 pounds of VOC per gallon (288 g/l) as applied, less water and non-precursor compounds, as determined by EPA Method 24; or

**301.2** Using an Approved Emission Control System having an overall control efficiency, including capture and processing, of at least 81 percent by weight of VOC-reduction for all adhesive application processes using adhesive containing over 2.4 pounds of VOC per gallon (288 g/l), as applied, less water and non-precursor compounds. The control efficiency of an adsorption and recovery system used as an Approved Emission Control System shall be determined using the mass-balance formula in subsection 503.1.

**302 OPERATION AND MAINTENANCE (O&M) PLAN:**

**302.1** The owner or operator of an Approved Emission Control System used to meet the requirements of subsection 301.2 of this rule shall provide the Control

Officer with an Operation and Maintenance (O&M) Plan. This O&M Plan shall specify:

**a.** Key system operating parameters, such as temperatures, pressures, fluid throughputs, and/or flow rates; the stack VOC-concentration monitoring and adsorber sequencing equipment specifications and the set points contained in their programming; and any other critical processes necessary for proper operation and for determining compliance with this rule;

**b.** All essential maintenance procedures and their frequencies needed to maintain the Approved Emission Control System.

**302.2** An Approved Emission Control System must have the O&M Plan approved in writing by the Control Officer.

**302.3 Time Frames For Changes:**

**a.** Changes involving reduction in the frequency or extent of a Control-Officer approved O&M Procedure must have the written consent of the Control Officer prior to being implemented.

**b. Other changes:** An updated O&M Plan must be submitted to the Control Officer for review within 10 days of any changes not involving reduction in frequency or extent of an approved O&M procedure. Within five working days of a written disapproval of such changes, either the original O&M Plan shall be reinstituted or an alternative, negotiated with the affected facility and approved in writing by the Control Officer, shall be instituted.

**303 MAINTENANCE:** Any person subject to this rule shall operate and maintain in proper working order when in use all process equipment in which VOC-containing materials are used.

**304 STORAGE AND DISPOSAL OF VOC:** Any person subject to this rule shall store all VOC-containing materials subject to evaporation, including waste adhesive and waste solvent in containers, each of which is legibly labelled with its contents. The presence of content-labels that are required by federal hazardous waste or occupational safety statutes (RCRA or OSHA) will meet this requirement. These containers shall be covered when not in use or, alternatively, they shall be placed beneath a hood ducted to or within an enclosure ducted to an operating Approved Emission Control System until solidified throughout. Such person shall keep records of disposal of VOC-containing materials in accordance with applicable federal, state, and local hazardous waste disposal statutes and rules.

**305 EXEMPTIONS:**

**305.1** Facilities which after December 31, 1989, always emit less than 50 tons (45.4 Mg) per year and less than 8333 pounds (3780 kg) per month of VOC from adhesives used in the manufacture of rubber sportsballs are exempt from this rule, except that those facilities which have the potential to annually emit or which do annually emit more than 25 tons (22.7 Mg) of VOC from such adhesives after December 31, 1989, must keep records in accordance with Section 500.

**305.2 Applicability of Other Rules:**

**a.** Facilities exempted from the provisions of this rule pursuant to Section 102 are not exempted from other provisions in other rules of the Maricopa County Air Pollution Control Regulation III.

**b.** Rules 330 and 336 shall not apply to a facility subject to the standards of this rule.

## SECTION 400 - ADMINISTRATIVE REQUIREMENTS

**401 COMPLIANCE SCHEDULE:** An owner or operator who chooses to meet the requirements of Section 301 by use of an Approved Emission Control System must be in full compliance with all applicable requirements by May 31, 1995. Any owner or operator of an emission control system used to meet the requirements of subsection 301.2 of this rule shall provide the Control Officer with:

**401.1** An Operation and Maintenance (O&M) Plan for this system by May 31, 1995.

**401.2** A compliance plan by December 1, 1994, listing the dates of completion of increments of progress toward meeting the requirements of subsection 301.2.

## SECTION 500 - MONITORING AND RECORDS

**501 PROVIDING AND MAINTAINING MONITORING DEVICES:** Any person operating an Approved Emission Control System pursuant to this rule shall provide, properly install and maintain in calibration, in good working order and in operation, devices described in an approved O&M Plan for indicating temperatures, pressures, fluid throughputs, rates of flow, and/or other operating conditions necessary to determine if air pollution control equipment is functioning properly and is properly maintained.

**502 RECORDKEEPING AND REPORTING:** Any person subject to this rule shall comply with the following requirements. Records shall be retained for five years and shall be made available to the Control Officer upon request.

**502.1** **Current List:** Maintain a current list of adhesives including their formulations as applied, makeup solvents, and any other VOC-containing materials. State the VOC content of each in pounds per gallon or grams per liter.

**502.2** **Usage Records:** Maintain records according to the following schedule, which show the type and amount of each adhesive, makeup solvent, and any other VOC-containing material.

**a**. **Adhesives solvents, and VOC-containing materials**:

**(1)** Records shall be updated monthly showing the usage of the separate adhesives, solvents, and other VOC-containing materials.

**(2)** Yearly update those materials known to be annually used in quantities less than 15 gallons (56 l) or to annually emit less than 75 lb (34 kg).

**(3)** **Deliveries:** At the time of each delivery of solvent, the amount received, tank designation and time shall be recorded in a log book.

**b.** **Measuring instruments and readings:**

**(1)** Readings for efficiency determination should be made during the same time period each day.

**(2)** If volume rather than mass (weight) measures are used as the basis for calculations, then compensate for temperature. A temperature-compensating instrument may be used for this purpose. If two or more such instruments are used in a demonstration of compliance with this rule, log any difference(s) between their respective compensating factors with the temperature range(s) where difference occurs. Show adjustments for such differences when making mass-balance calculations.

**(3)** Readings of all meters or other instruments measuring throughput on lines to or from such tanks shall be recorded daily with date and time.

**(4)** Each repair, adjustment, or resetting of flow meters or other instruments measuring cumulative throughput shall be logged with the date, time, purpose, and the reading before and after such an operation. The cumulative, totalizing, throughput readout of such an instrument shall have no resetting feature.

**503 COMPLIANCE DETERMINATION - TEST METHODS:** When more than one test method is permitted for a determination, an exceedance of the limits established in this rule determined by any of the applicable test methods constitutes a violation of this rule.

**503.1 Mass Balance Determinations - Self Monitoring of Compliance for a Facility Using Carbon Adsorption with Solvent Recovery as a Control Method:**

**a. Daily recording:** Refer to Figure I of this rule for the location of the mass balance meters - $M_B$, $M_V$, and $M_R$. By midday on the first workday following a completed production-day, the following shall be determined for that completed production day and entered in a hardcopy form acceptable to the Control Officer:

**(1)** The individual readings given by each of the three mass balance meters at the designated meter-reading time during the production day just completed;

**(2)** VOC throughputs via those three mass balance flowmeters since both:

**(a)** the previous production day at the designated meter-reading time; and

**(b)** since meter-reading time on that production day which is nine production days prior to the most recently completed production day.

**(3)** Using the Recovery Formula in 503.1,b. and the logged values required by 503.1,a.(2)(a) above, determine the most recent one-day recovery efficiency and record that in the same log. Using the values required by 503.1,a.(2)(b) in the previous paragraph, the 9-day rolling average shall also be calculated and recorded using the same recovery formula in 503.1,b.

**b. Recovery formula:** Using the liquid/liquid mass balance method, the following ratio expresses the efficiency of the control system during the period of the 9-day rolling average and for other periods:

$$\text{Recovery}_M = \frac{M_B}{M_V + M_R}$$

Where: $M_B$ is the solvent throughput indicated by the meter immediately downstream of the buffer tank.

$M_V$ is the solvent throughput indicated by the meter on the output pipe of the virgin solvent tank.

$M_R$ is the solvent throughput indicated by the meter downstream of the junction connecting the output lines from each recovered-solvent storage tank.

**(1) Adjustments for waste disposed of through statutorily prescribed procedures:** When the combined mass of all such waste is less than 0.5 percent of the total mass of solvent metered through meters $M_V$ and $M_R$ during the same 9-day rolling average period as the waste occurred, 95 percent of the mass of contaminated solvent and half the mass of any still fluid adhesive wasted may be subtracted from the denominator ($M_V + M_R$) in the recovery formula when determining efficiency. Except as allowed by the procedure set forth in the next paragraph, no adjustment credit will be given for waste adhesive which is no longer fluid.

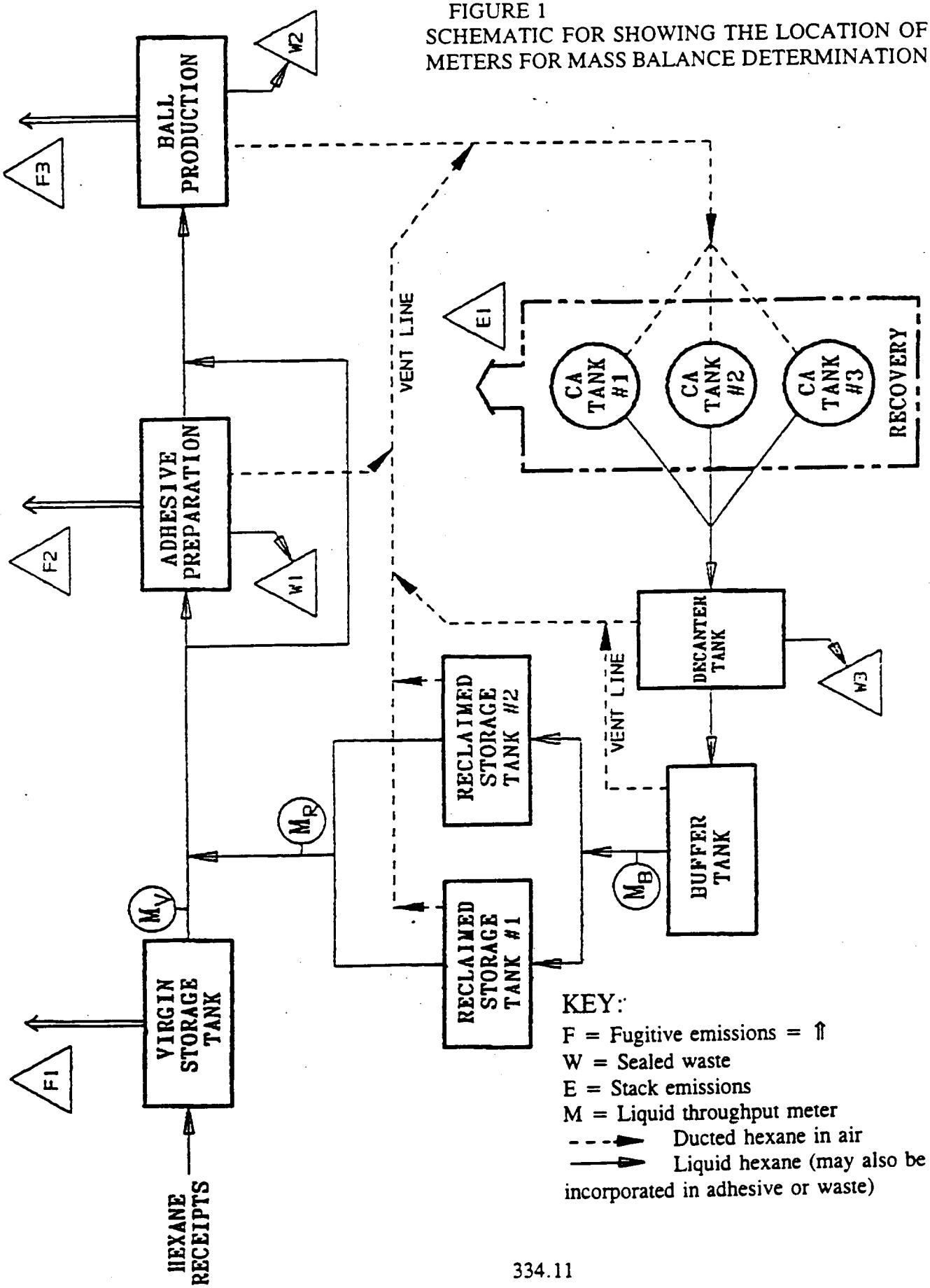
A Method 24 Test determination of VOC content(s) referenced in subsection 503.2 shall be performed if the owner or operator of an affected facility requests adjustment for a larger quantity of fluid and/or non-fluid waste(s). The request for adjustment and the results of the test shall be submitted to the Control Officer for approval.

**(2) Total shut-downs and start-ups:** The production statistics for the last production day prior to a complete production shutdown of at least five consecutive days shall not be included in the 9-day rolling average of control efficiency, as long as no adhesive is made on the last production day. At a start-up after a total shutdown "day one" of a 9-day rolling average period begins at the standard meter-reading time on the third production day since start-up.

**(3) Non-production days:** On days during which a total of 100 gallons or less of adhesive enters adhesive application machines, the readings of meters "$M_s$", "$M_V$", and "$M_R$" shall not be entered in the same log-sector as such readings made during actual production days, irrespective of whether adhesive was made on such days.

**503.2** The method of determining both the solids and the volatile content of adhesives, and of determining compliance of an adhesive with the VOC-limit specified in subsection 301.1 shall be the EPA Reference Method 24 (40 CFR, Part 60, Appendix A). Method 24 shall also be used to determine the volatile and non-volatile content of waste adhesive with reference to subsection 503.1,b.(1).

FIGURE 1
SCHEMATIC FOR SHOWING THE LOCATION OF METERS FOR MASS BALANCE DETERMINATION



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